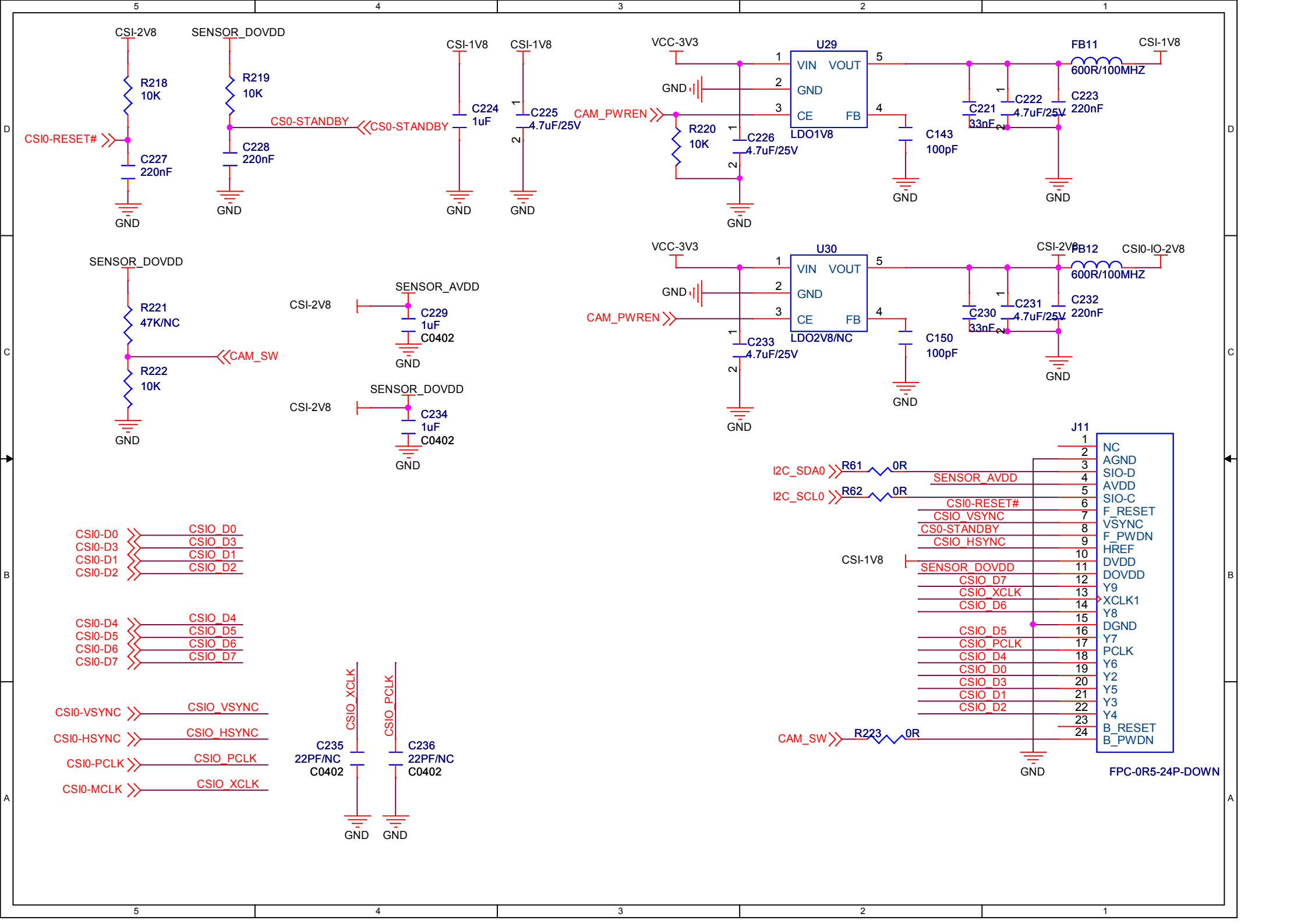
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R218
10K
CSI0-RESET#
C227
220nF
GND
SENSOR_DOVDD
R219
10K
CS0-STANDBY
C228
220nF
GND
CSI-1V8
C224
1uF
GND
CSI-1V8
C225
4.7uF/25V
GND
VCC-3V3
U29
VIN
VOUT
GND
CE
FB
LDO1V8
CAM_PWREN
R220
10K
C226
4.7uF/25V
GND
C143
100pF
GND
C221
33nF
C222
4.7uF/25V
C223
220nF
GND
FB11
600R/100MHZ
CSI-1V8
SENSOR_DOVDD
R221
47K/NC
CAM_SW
R222
10K
GND
CSI-2V8
SENSOR_AVDD
C229
1uF
C0402
GND
SENSOR_DOVDD
CSI-2V8
C234
1uF
C0402
GND
VCC-3V3
U30
VIN
VOUT
GND
CE
FB
LDO2V8/NC
CAM_PWREN
C233
4.7uF/25V
GND
C150
100pF
GND
C230
33nF
C231
4.7uF/25V
C232
220nF
GND
CSI-2V8
FB12
600R/100MHZ
CSI0-IO-2V8
CSI0-D0
CSI0-D3
CSI0-D1
CSI0-D2
CSIO_D0
CSIO_D3
CSIO_D1
CSIO_D2
CSI0-D4
CSI0-D5
CSI0-D6
CSI0-D7
CSIO_D4
CSIO_D5
CSIO_D6
CSIO_D7
CSI0-VSYNC
CSI0-HSYNC
CSI0-PCLK
CSI0-MCLK
CSIO_VSYNC
CSIO_HSYNC
CSIO_PCLK
CSIO_XCLK
CSIO_XCLK
CSIO_PCLK
C235
22PF/NC
C0402
C236
22PF/NC
C0402
GND
GND
J11
NC
AGND
SIO-D
AVDD
SIO-C
F_RESET
VSYNC
F_PWDN
HREF
DVDD
DOVDD
Y9
XCLK1
Y8
DGND
Y7
PCLK
Y6
Y2
Y5
Y3
Y4
B_RESET
B_PWDN
I2C_SDA0
R61
0R
I2C_SCL0
R62
0R
SENSOR_AVDD
CSI0-RESET#
CSIO_VSYNC
CS0-STANDBY
CSIO_HSYNC
CSI-1V8
SENSOR_DOVDD
CSIO_D7
CSIO_XCLK
CSIO_D6
CSIO_D5
CSIO_PCLK
CSIO_D4
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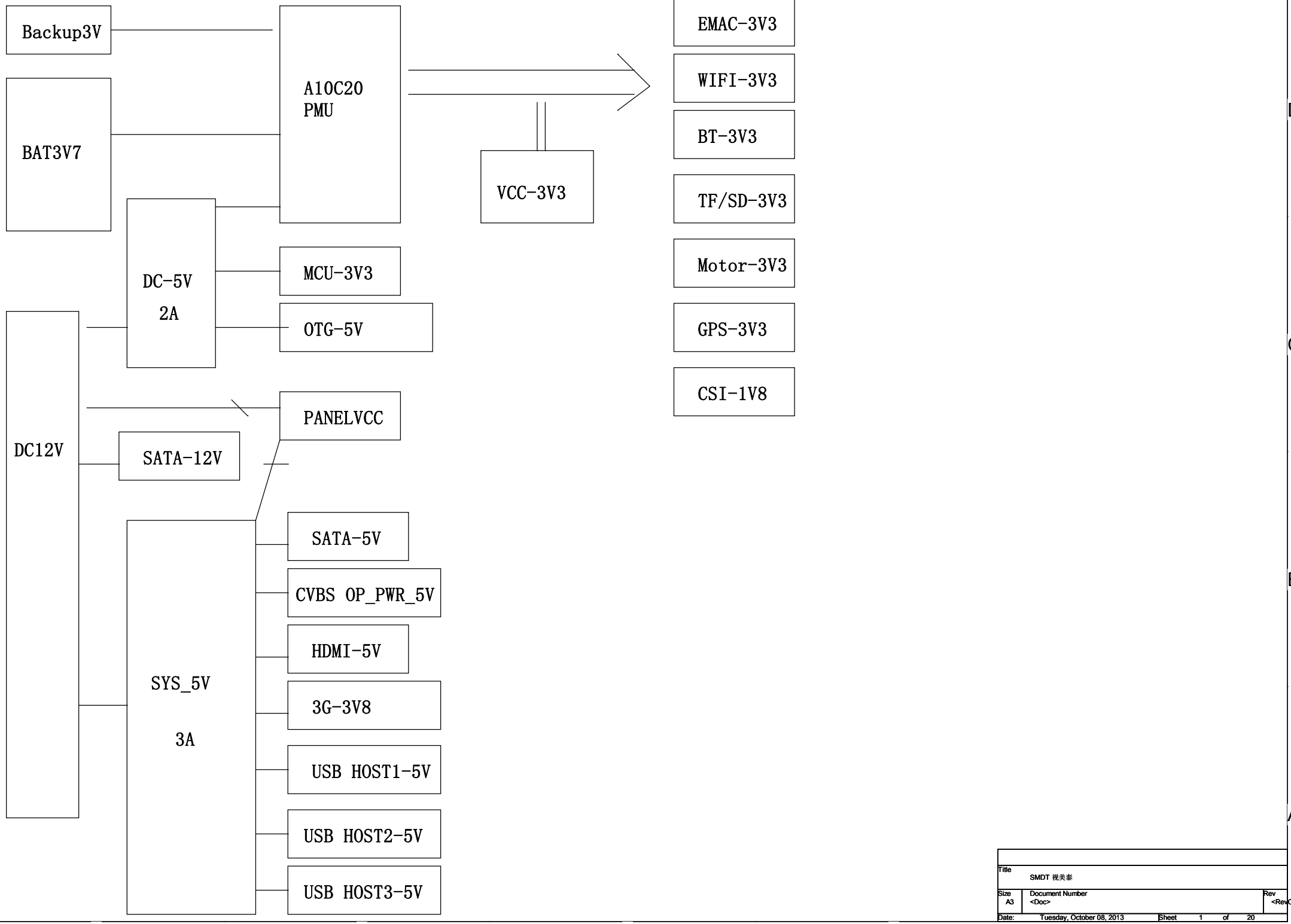

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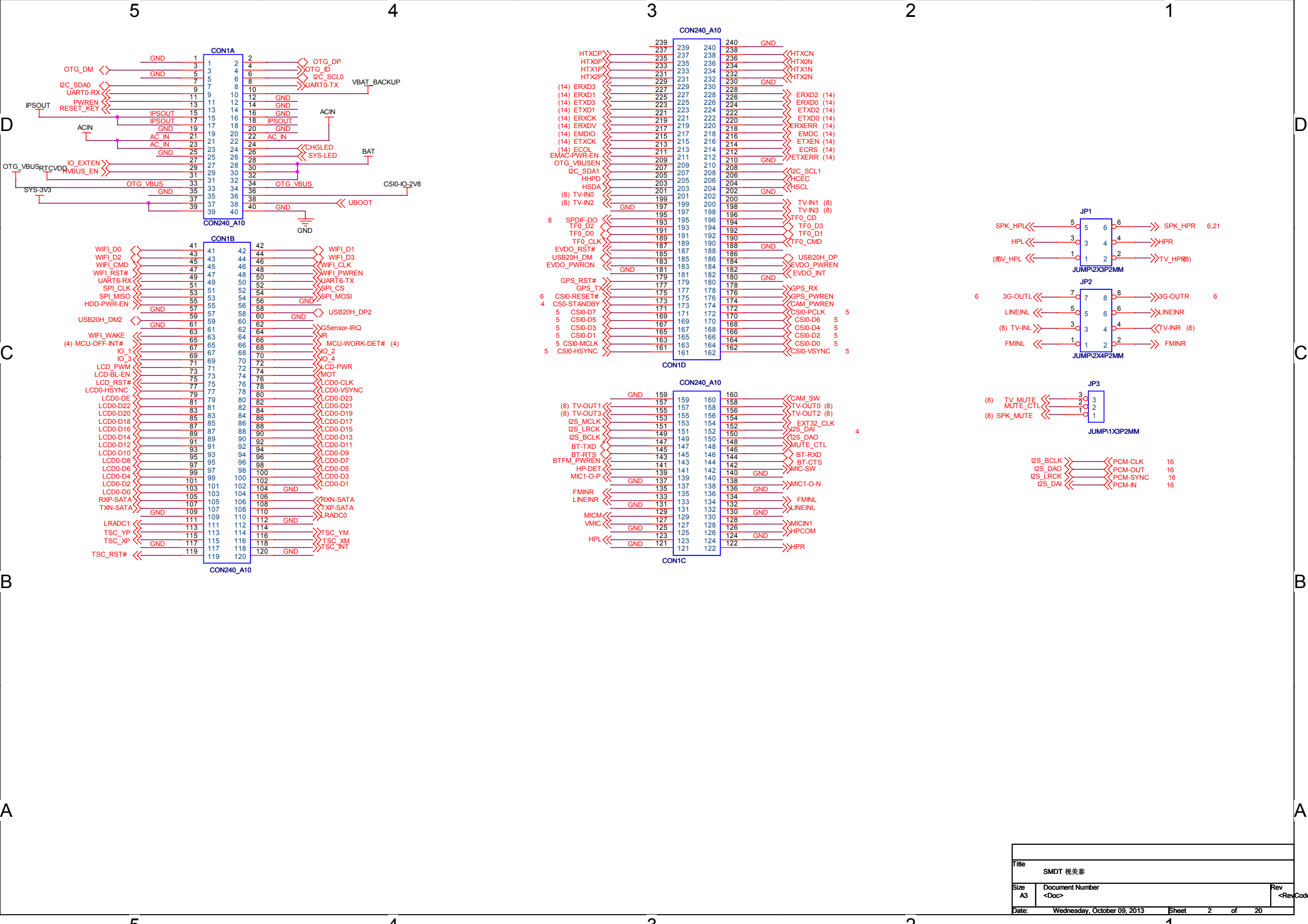
5
4
3
2
1
D
C
B
A
CON1A
CON240_A10
CON1B
CON240_A10
CON240_A10
CON1D
CON240_A10
CON1C
JP1
JUMP\2X3P2MM
JP2
JUMP\2X4P2MM
JP3
JUMP\1X3P2MM
GND
OTG_DM
OTG_DP
OTG_ID
I2C_SCL0
UART0-TX
VBAT_BACKUP
I2C_SDA0
UART0-RX
PWREN
RESET_KEY
IPSOUT
ACIN
AC_IN
CHGLED
SYS-LED
BAT
IO_EXTEN
RTCVDD
HVBUS_EN
OTG_VBUS
SYS-3V3
CSI0-IO-2V8
UBOOT
WIFI_D0
WIFI_D2
WIFI_CMD
WIFI_RST#
UART6-RX
SPI_CLK
SPI_MISO
HDD-PWR-EN
USB20H_DM2
USB20H_DP2
WIFI_WAKE
MCU-OFF-INT#
IO_1
IO_3
LCD_PWM
LCD-BL-EN
LCD_RST#
LCD0-HSYNC
LCD0-DE
LCD0-D22
LCD0-D20
LCD0-D18
LCD0-D16
LCD0-D14
LCD0-D12
LCD0-D10
LCD0-D8
LCD0-D6
LCD0-D4
LCD0-D2
LCD0-D0
RXP-SATA
TXN-SATA
LRADC1
TSC_YP
TSC_XP
TSC_RST#
WIFI_D1
WIFI_D3
WIFI_CLK
WIFI_PWREN
UART6-TX
SPI_CS
SPI_MOSI
GSensor-IRQ
IR
IO_2
IO_4
LCD-PWR
MOT
LCD0-CLK
LCD0-VSYNC
LCD0-D23
LCD0-D21
LCD0-D19
LCD0-D17
LCD0-D15
LCD0-D13
LCD0-D11
LCD0-D9
LCD0-D7
LCD0-D5
LCD0-D3
LCD0-D1
RXN-SATA
TXP-SATA
LRADC0
TSC_YM
TSC_XM
TSC_INT
HTXCP
HTX0P
HTX1P
HTX2P
(14) ERXD3
(14) ERXD1
(14) ETXD3
(14) ETXD1
(14) ERXCK
(14) ERXDV
(14) EMDIO
(14) ETXCK
(14) ECOL
EMAC-PWR-EN
OTG_VBUSEN
I2C_SDA1
HHPD
HSDA
(8) TV-IN0
(8) TV-IN2
SPDIF-DO
TF0_D2
TF0_D0
TF0_CLK
EVDO_RST#
USB20H_DM
EVDO_PWRON
GPS_RST#
GPS_TX
CSI0-RESET#
CS0-STANDBY
CSI0-D7
CSI0-D5
CSI0-D3
CSI0-D1
CSI0-MCLK
CSI0-HSYNC
HTXCN
HTX0N
HTX1N
HTX2N
ERXD2 (14)
ERXD0 (14)
ETXD2 (14)
ETXD0 (14)
ERXERR (14)
EMDC (14)
ETXEN (14)
ECRS (14)
ETXERR (14)
I2C_SCL1
HCEC
HSCL
TV-IN1 (8)
TV-IN3 (8)
TF0_CD
TF0_D3
TF0_D1
TF0_CMD
USB20H_DP
EVDO_PWREN
EVDO_INT
GPS_RX
GPS_PWREN
CAM_PWREN
CSI0-PCLK
CSI0-D6
CSI0-D4
CSI0-D2
CSI0-D0
CSI0-VSYNC
(8) TV-OUT1
(8) TV-OUT3
I2S_MCLK
I2S_LRCK
I2S_BCLK
BT-TXD
BT-RTS
BTFM_PWREN
HP-DET
MIC1-O-P
FMINR
LINEINR
MICM
VMIC
HPL
CAM_SW
TV-OUT0 (8)
TV-OUT2 (8)
EXT32_CLK
I2S_DAI
I2S_DAO
MUTE_CTL
BT-RXD
BT-CTS
MIC-SW
MIC1-O-N
FMINL
LINEINL
MICIN1
HPCOM
HPR
SPK_HPL
HPL
(8)V_HPL
SPK_HPR
HPR
TV_HPR (8)
3G-OUTL
LINEINL
(8) TV-INL
FMINL
3G-OUTR
LINEINR
TV-INR (8)
FMINR
(8) TV_MUTE
MUTE_CTL
(8) SPK_MUTE
I2S_BCLK
I2S_DAO
I2S_LRCK
I2S_DAI
PCM-CLK
PCM-OUT
PCM-SYNC
PCM-IN
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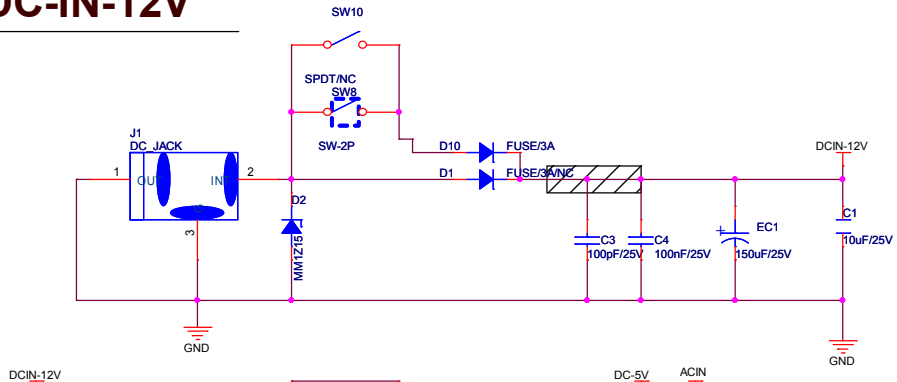
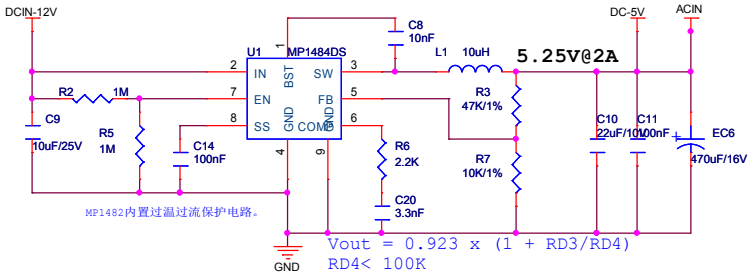
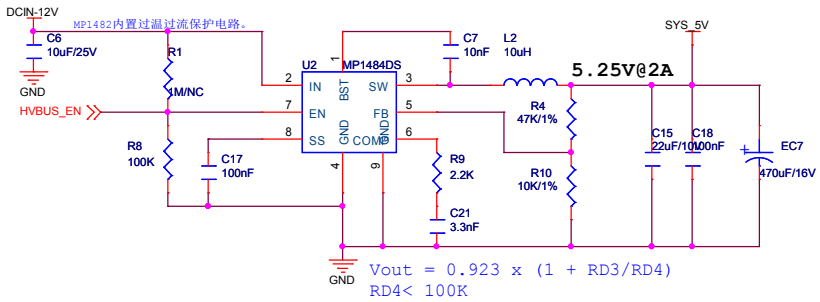
DC-IN-12V

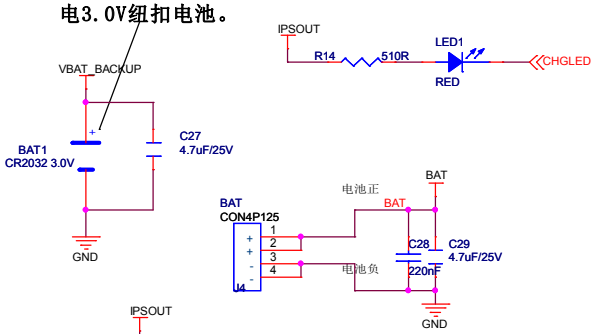


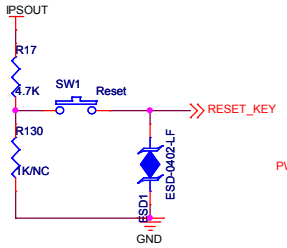


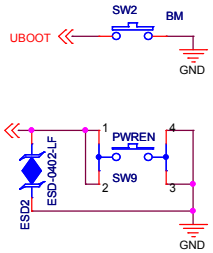


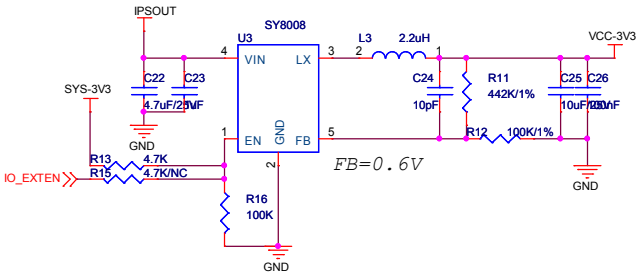
Option部分：一般情况下，使用5V火牛供电，此部分电路直接删掉。如果考虑到12V火牛的价格优势，可以采用此部分电路。
或者需要设计内置3.5寸硬盘，需要使用12V火牛供电。

当火牛拔除后，持续给RTCVDD供电，用以保持系统时间。PMU可以给3.0V纽扣电池充电，建议采用可充电3.0V纽扣电池。

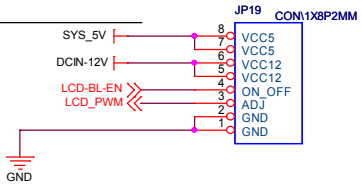








外部供电



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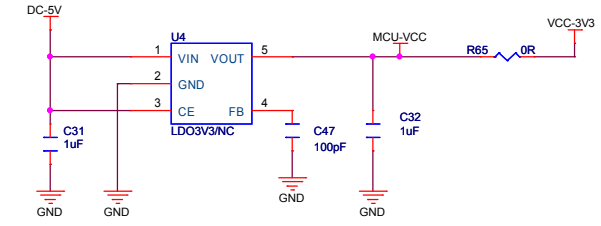
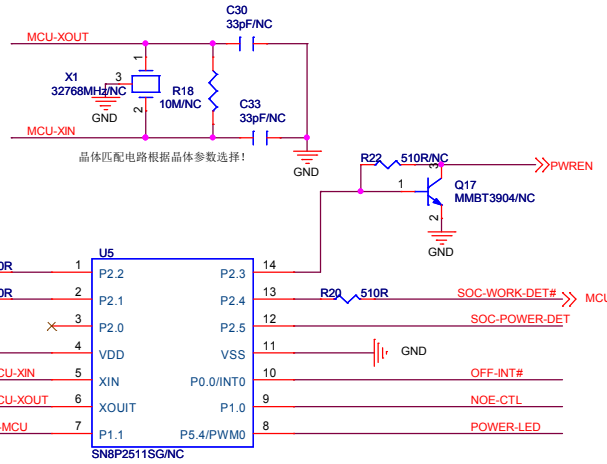
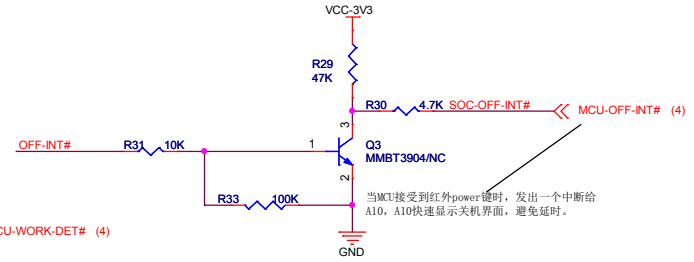
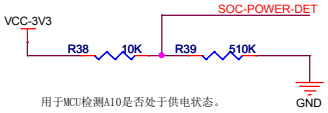
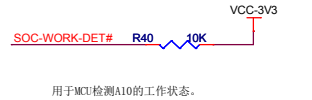
MCU&A10

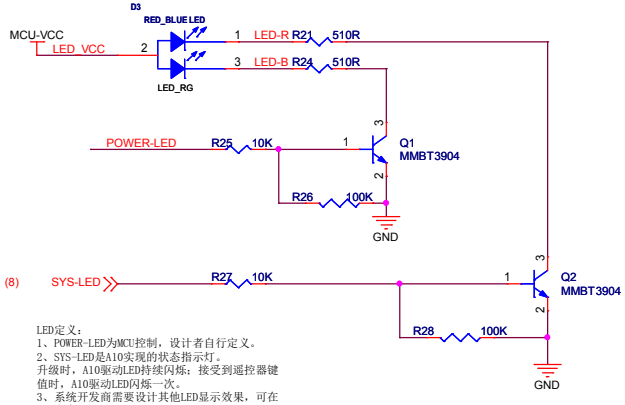




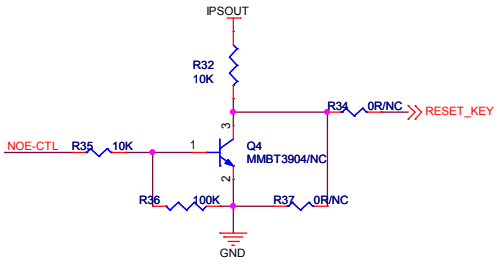


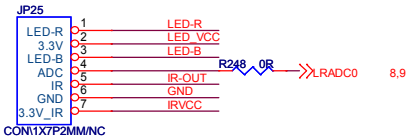




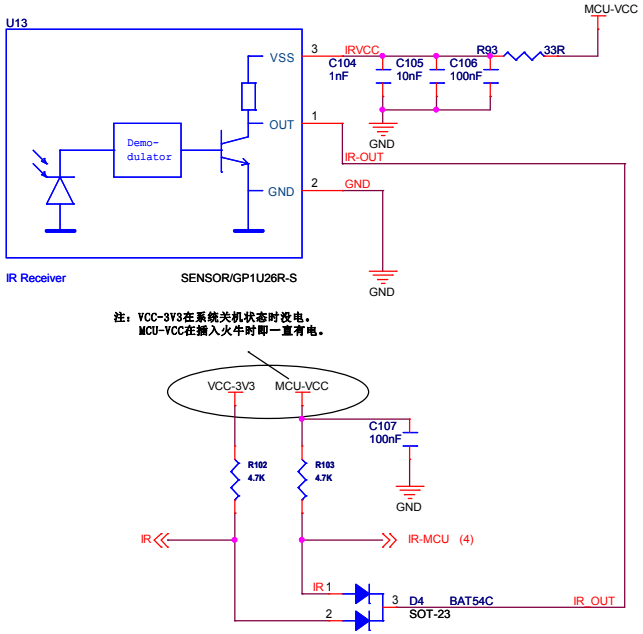


LED定义：
1、POWER-LED为MCU控制，设计者自行定义。
2、SYS-LED是A10实现的状态指示灯。
升级时，A10驱动LED持续闪烁；接受到遥控器键值时，A10驱动LED闪烁一次。
3、系统开发商需要设计其他LED显示效果，可在MCU上实现。





IR MODULE



MCU编程要点(红外遥控器实现全部操作的方法)：

1、系统上电不开机的做法（防止市电停电后来电机器自动开机的问题）：当插入火牛后，MCU将NOE-CTL一直拉低。直到MCU第一次接收到红外遥控器的power键值时，才将NOE-CTL置高，PMU开始供电，系统开始启动，android正常启动时间约21秒。

2、关机操作：当A10处于正常工作状态时，MCU接收到遥控器的power键值，MCU先判断A10-POWER-DET#，再判断A10-WORK-DET，如果满足A10-POWER-DET#为高，A10-WORK-DET为低，则MCU在PWR-ON#发出一个200ms的低电平。则屏幕图形提示让用户进行关机或者待机选择。

3、standby唤醒操作：当A10处于待机状态时，MCU接收到遥控器的power键值，MCU先判断A10-POWER-DET#，再判断A10-WORK-DET，如果满足A10-POWER-DET#为高，A10-WORK-DET为高，则MCU在PWR-ON#发出一个200ms的低电平，PMU直接将系统唤醒。

4、开机操作：当A10处于关机状态时，MCU接收到遥控器的power键值，MCU先判断A10-POWER-DET#，再判断A10-WORK-DET，如果满足A10-POWER-DET#为低，A10-WORK-DET为低，则MCU在PWR-ON#发出一个1.5秒的低电平，PMU接收到之后，开始给A10供电，系统开始上电开机。

5、其他操作：当软件出现异常需要复位系统时，一般采用的拔除火牛的操作。如果在机器面板上定义了POWER机械按键，此键用于开关机的办法与遥控器对PWR-ON的控制相同。机械按键可以定义长按操作，MCU检测到长按时，编程使得MCU发出一个大于6秒的低电平，PMU无条件掉电关机。

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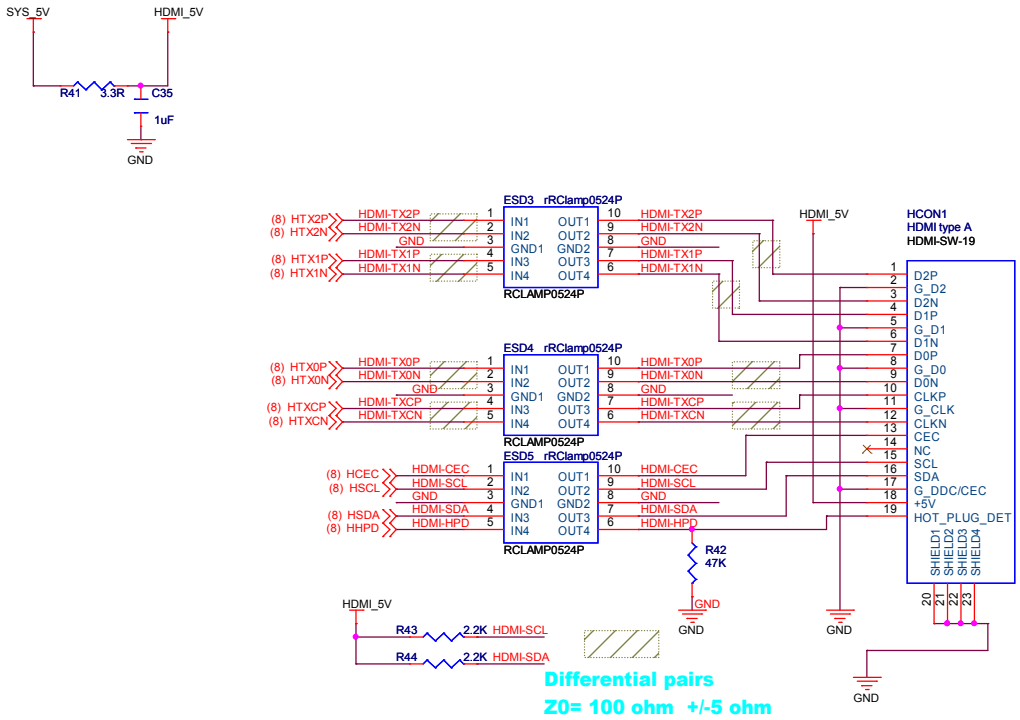
HDMI



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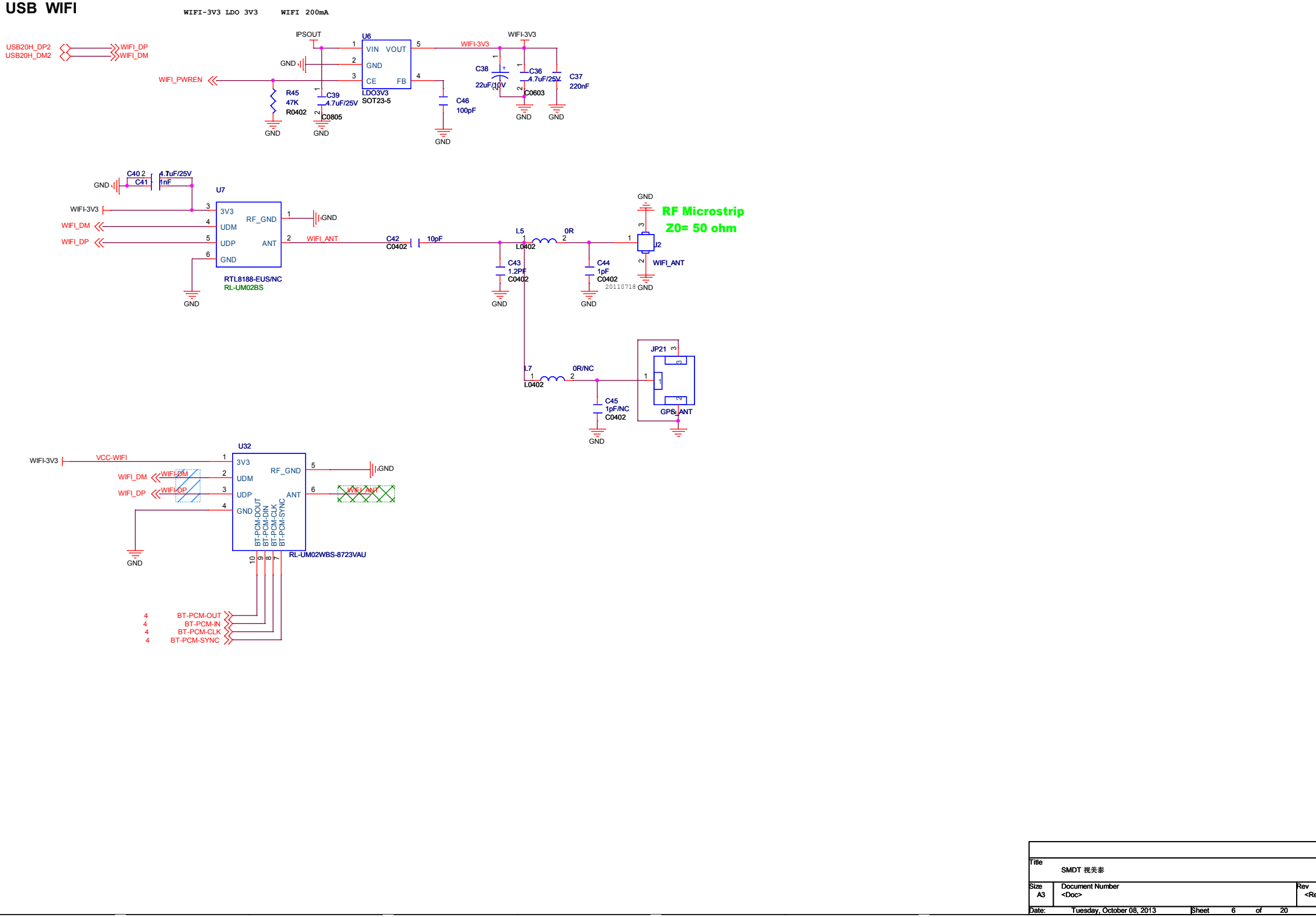

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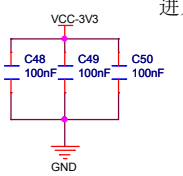
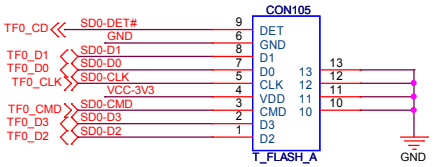
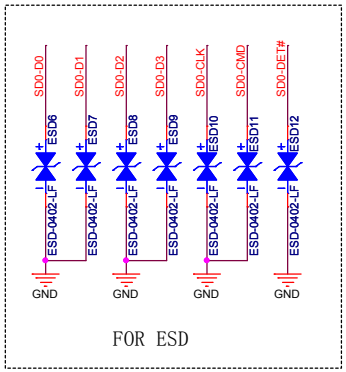
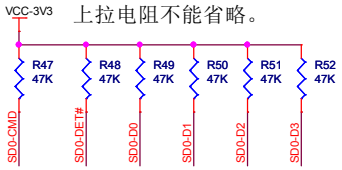
SD-CARD0

可卡量产卡启动，此处电源需常开，系统进入待机时，软件使卡进入standby状态。



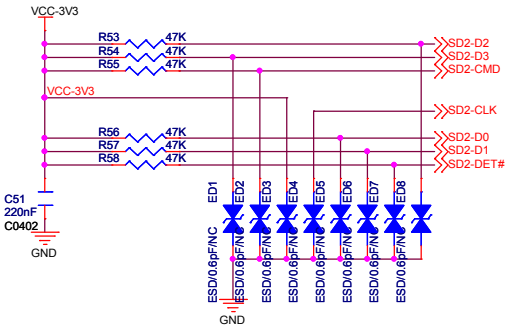


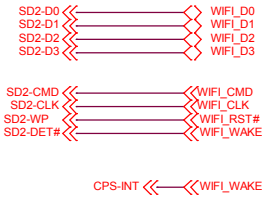


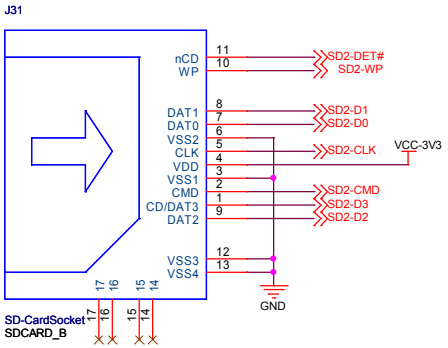


上拉电阻不能省略。

CARD2







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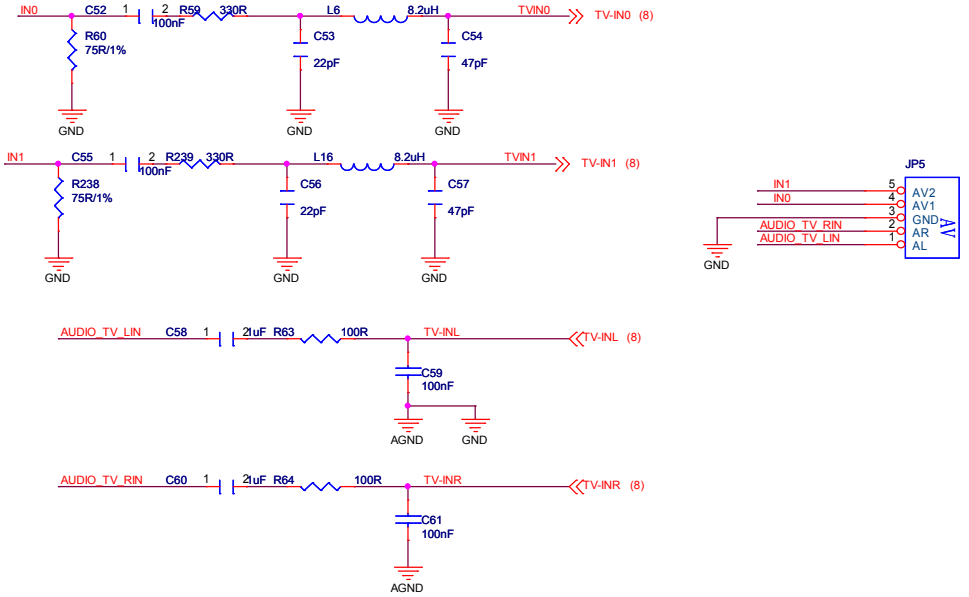
TVIN



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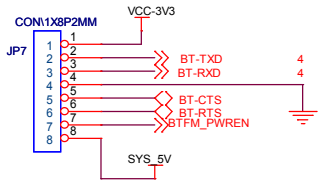
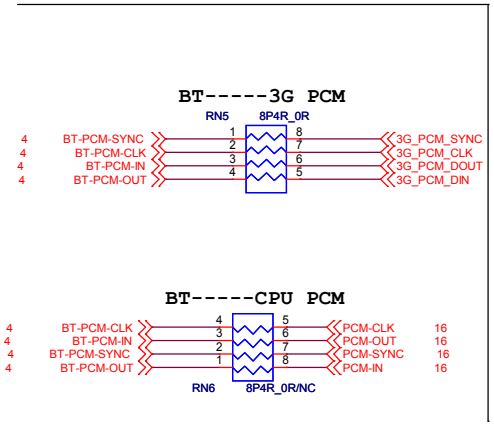
BT





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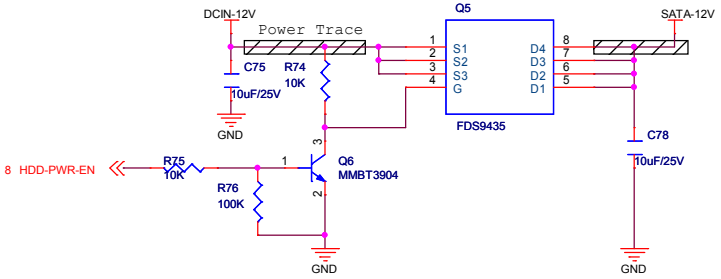
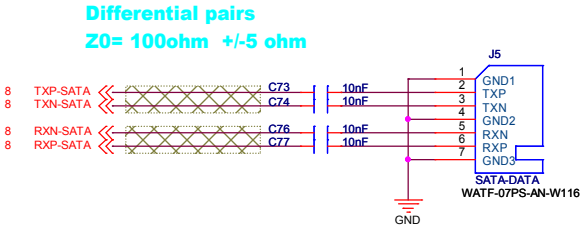
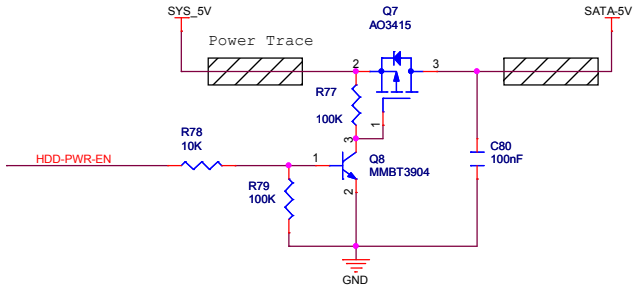
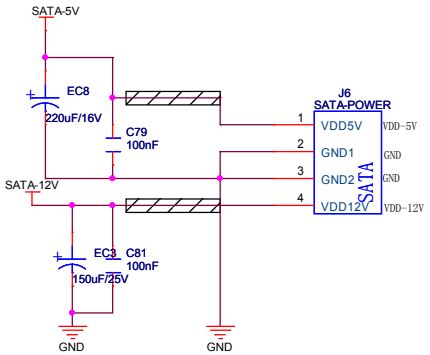
SATA

要求：Vgs >12V，Id>2A
注意此MOS不能简单用AO3423代替。









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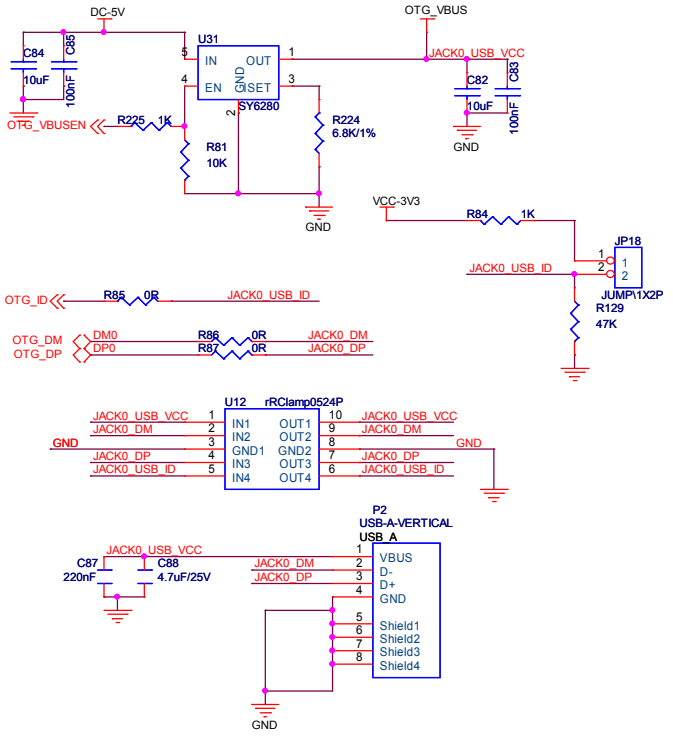
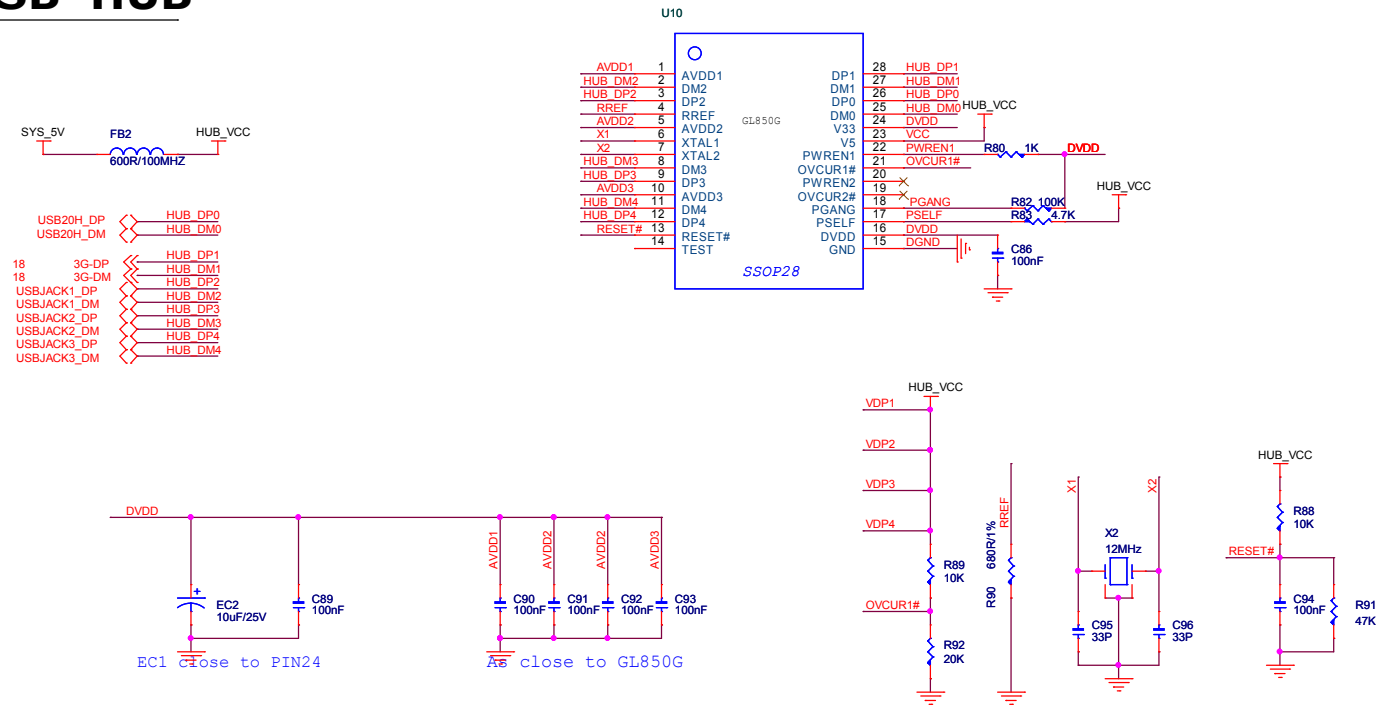
USB OTG



USB HUB



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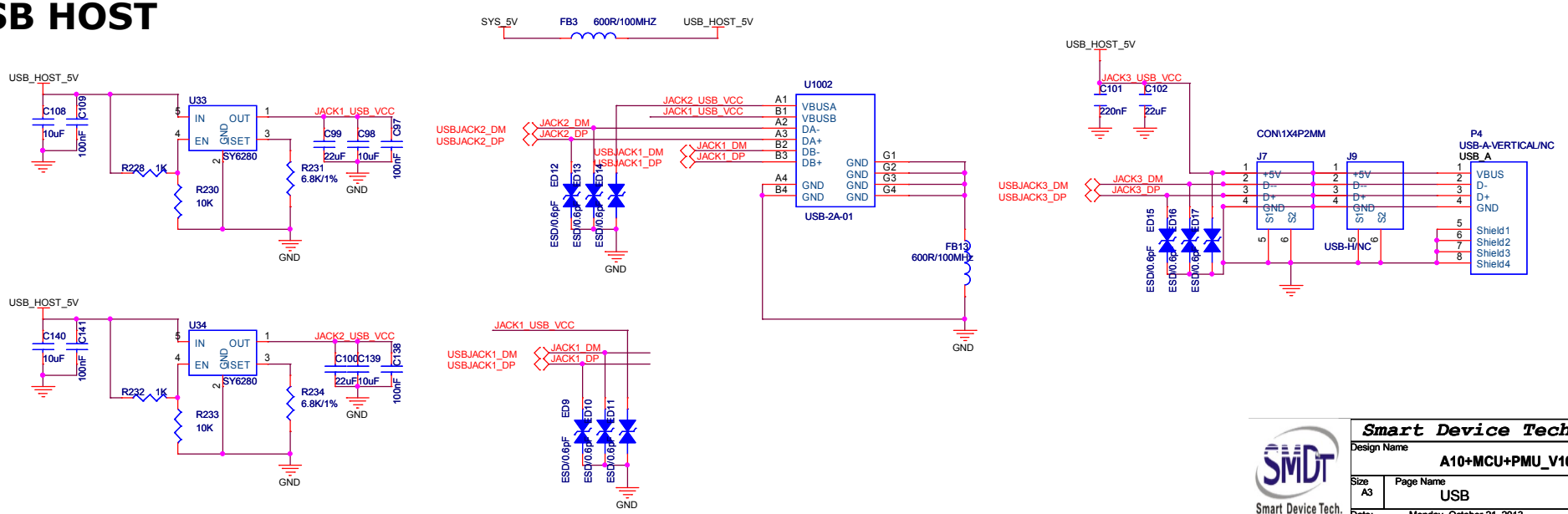

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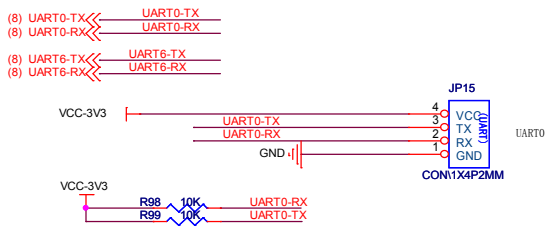
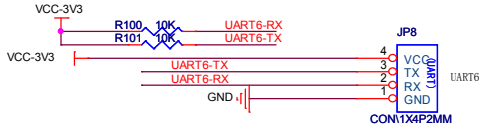
Smart Device Tech.

URAT





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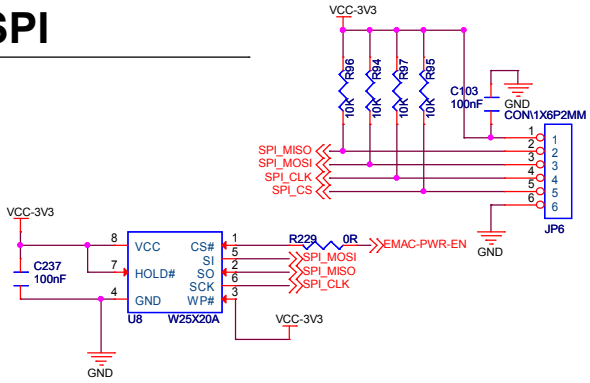
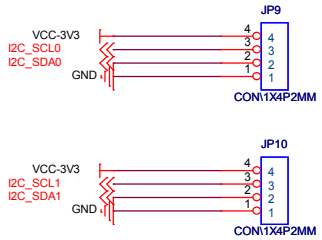


I2C



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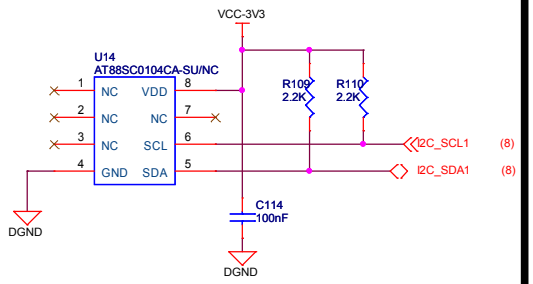
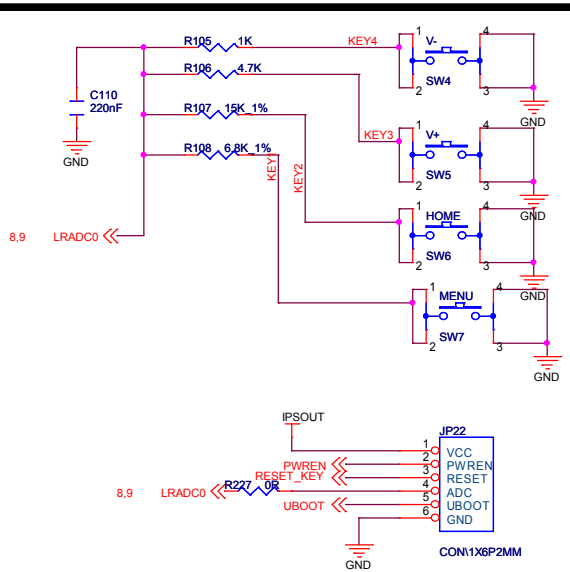
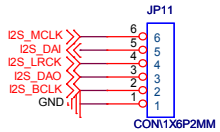
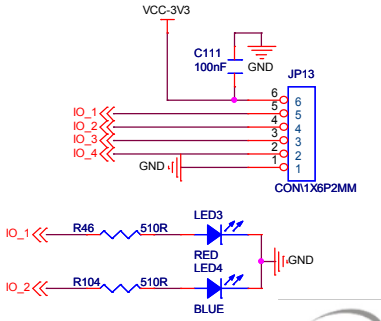


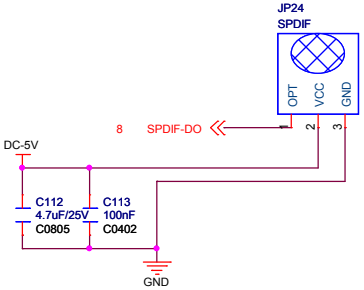




I/O扩展



SPDIF 光纤



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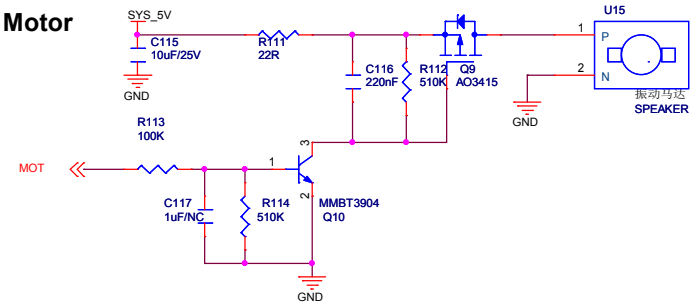
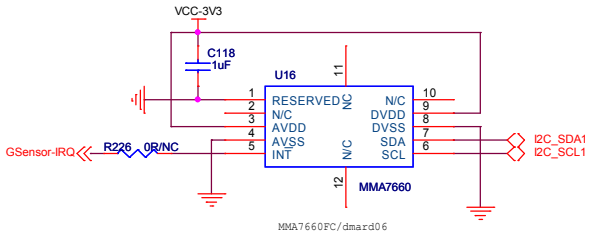
Motor



增加MARK点

G-SENSOR



摆放时务必注意G-Sensor在背对屏幕的那面，PIN 1朝屏幕左上角

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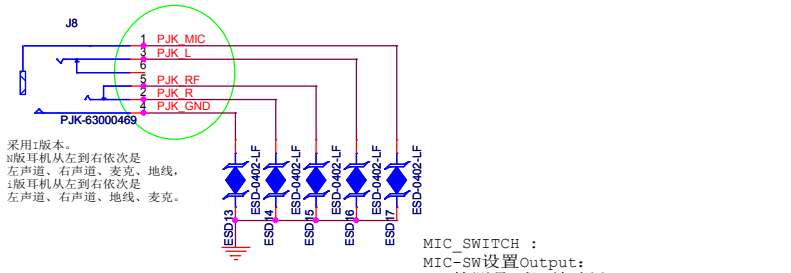
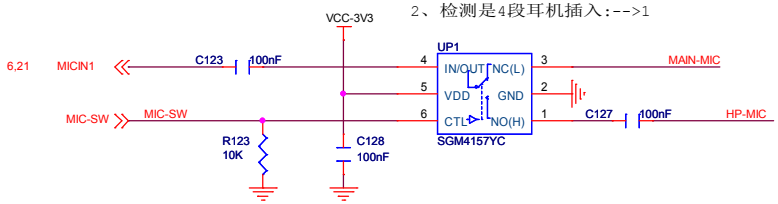
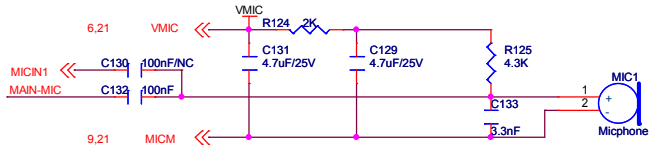
Microphone



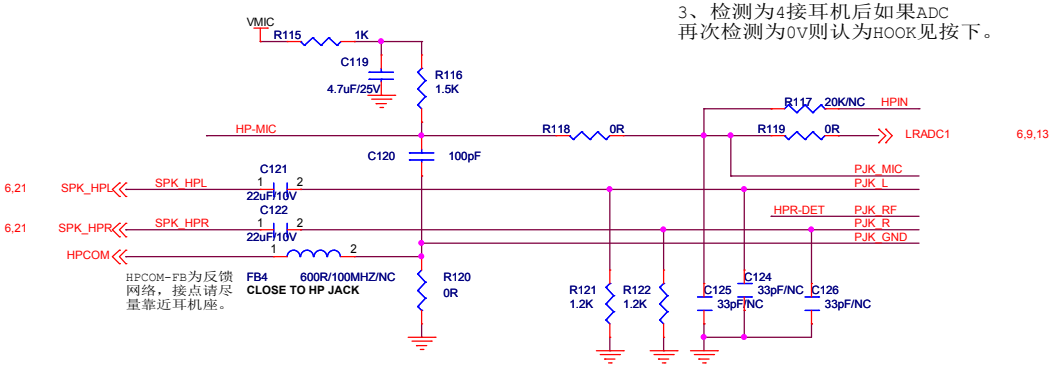
MIC_SWITCH :
MIC-SW设置Output:
1、检测是3段耳机插入:-->0
2、检测是4段耳机插入:-->1



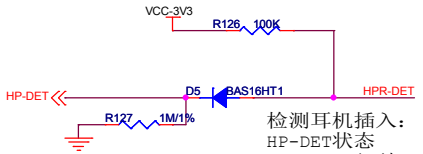


Head Phone

检测耳机插入类型和耳机按键：
ADC-HP-MIC-DET
1、0V-0.2V 则判定为3节耳机；
2、1V-2.5V 则判定为4节耳机；
3、检测为4接耳机后如果ADC
再次检测为0V则认为HOOK见按下。

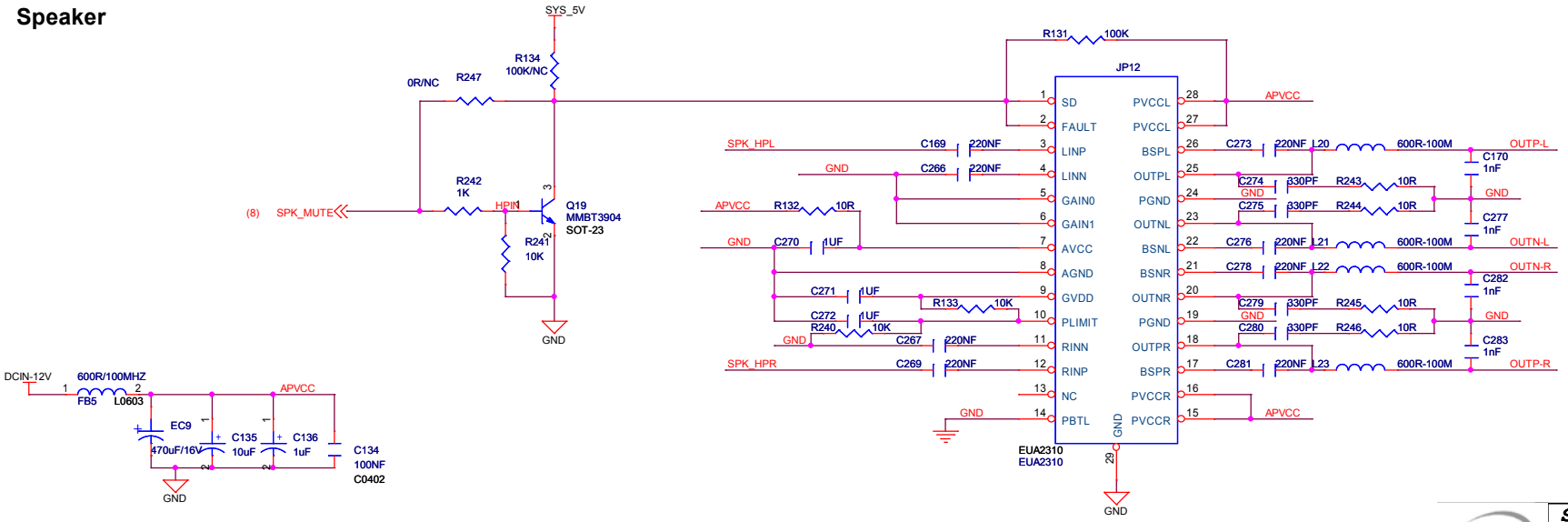


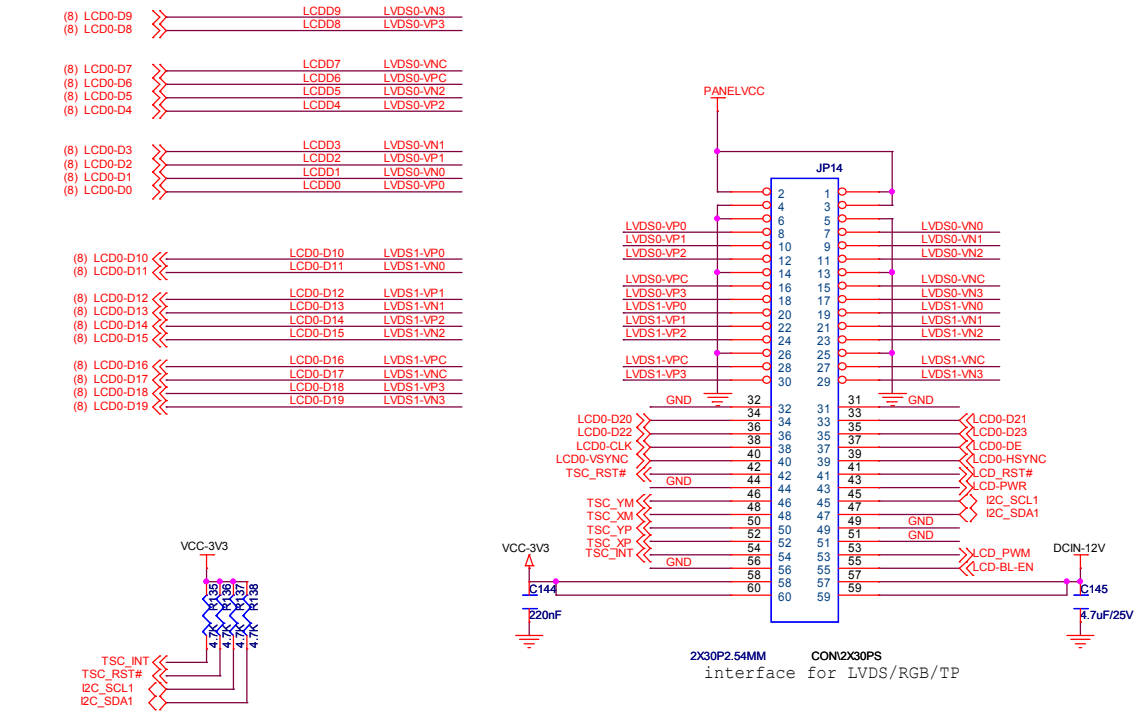
HEADSET INSERT DET

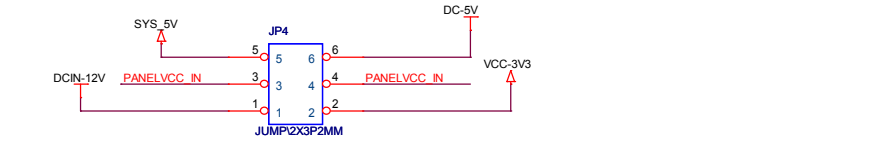


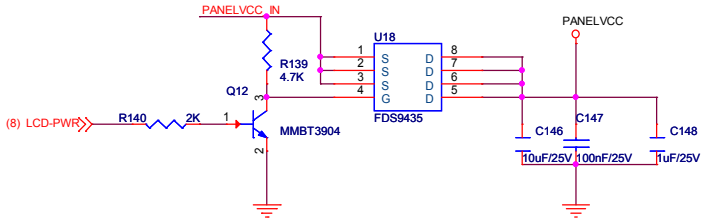
检测耳机插入：
HP-DET状态
1、0V，无耳机；
2、>2.5V 耳机插入

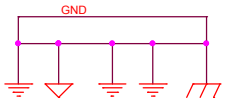
Speaker











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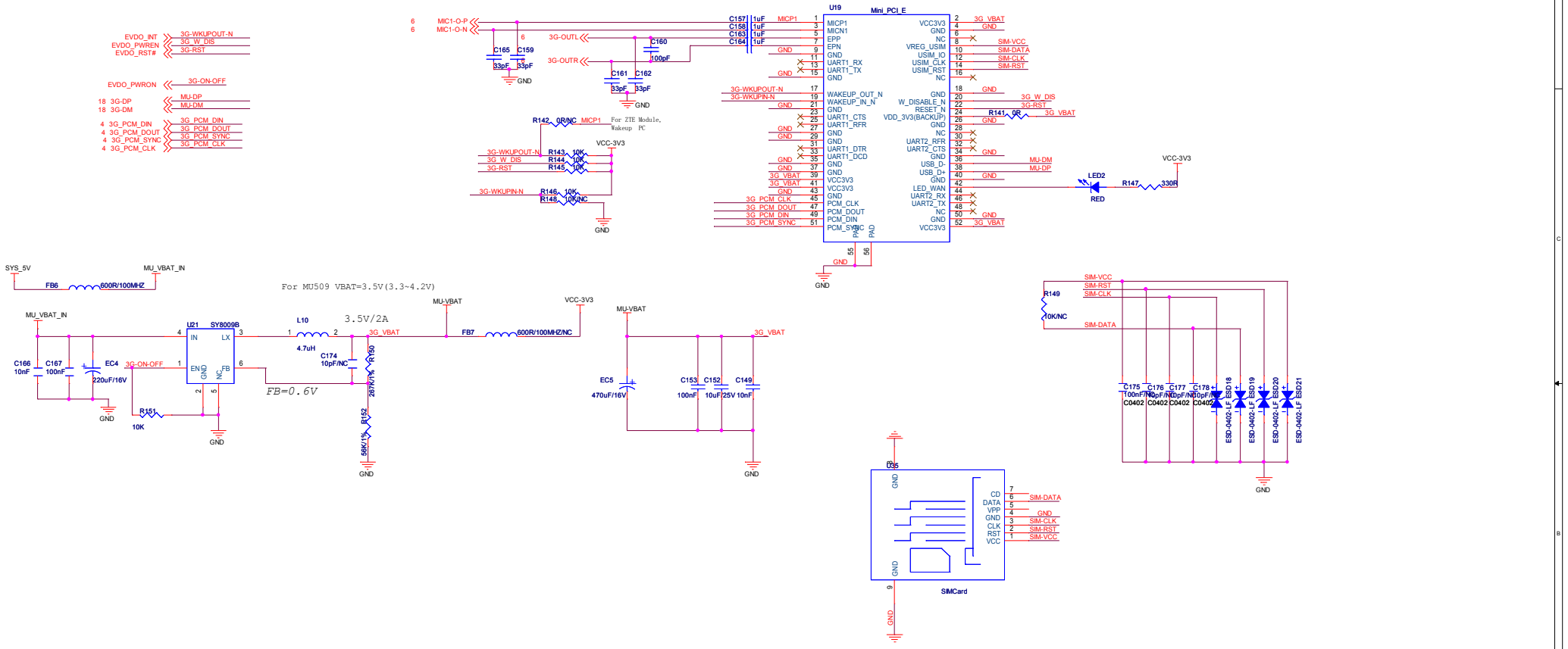
3G



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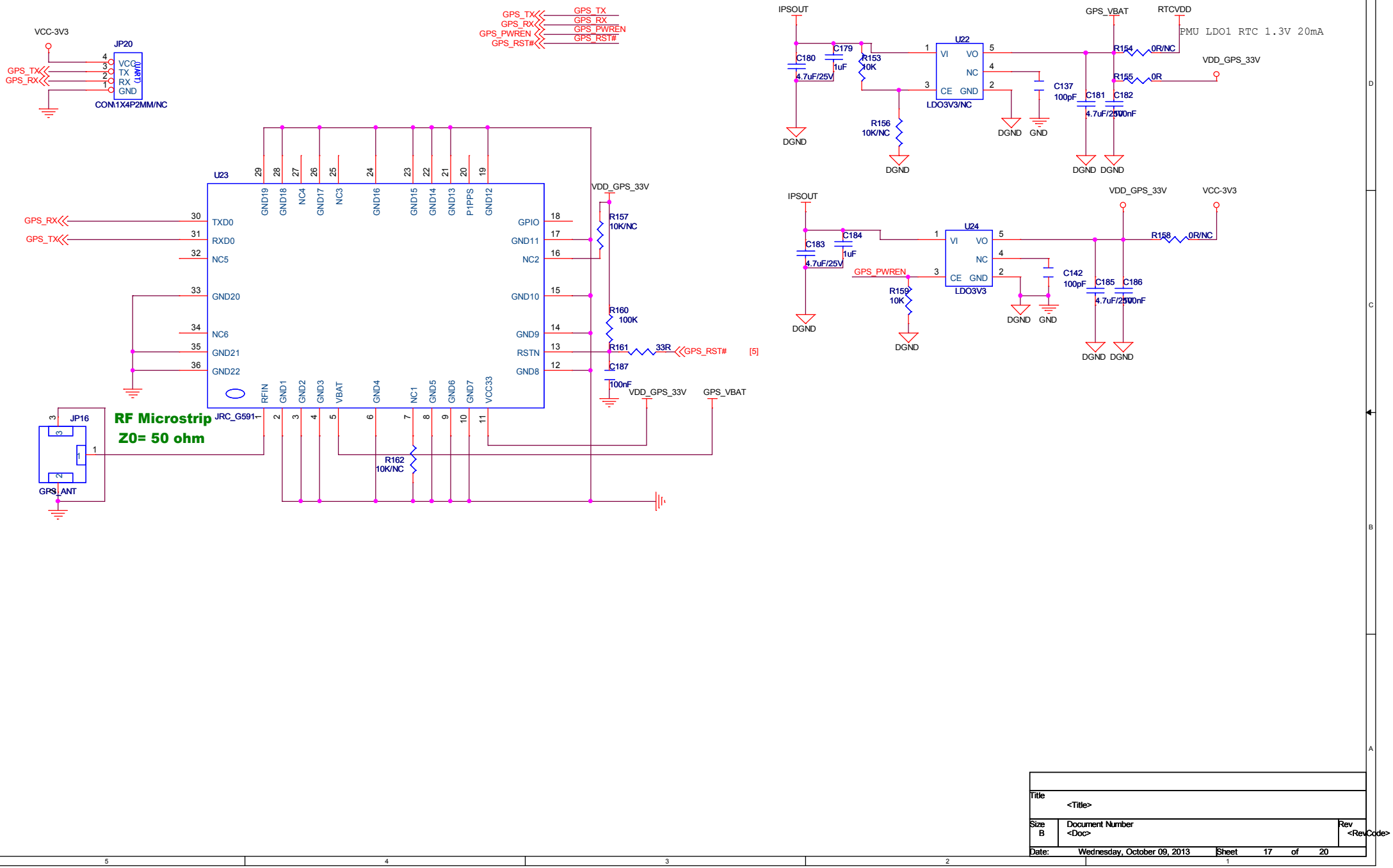
VCC-3V3
JP20
GPS_TX
GPS_RX
VCC
TX
RX
GND
UART1
CON1X4P2MM/NC
GPS_TX
GPS_RX
GPS_PWREN
GPS_RST#
U23
GND19
GND18
NC4
GND17
NC3
GND16
GND15
GND14
GND13
P1PPS
GND12
TXD0
RXD0
NC5
GND20
NC6
GND21
GND22
GPIO
GND11
NC2
GND10
GND9
RSTN
GND8
RFIN
GND1
GND2
GND3
VBAT
GND4
NC1
GND5
GND6
GND7
VCC33
JRC_G591
VDD_GPS_33V
R157
10K/NC
R160
100K
R161
33R
GPS_RST#
[5]
C187
100nF
VDD_GPS_33V
GPS_VBAT
JP16
RF Microstrip
Z0= 50 ohm
GPS_ANT
R162
10K/NC
IPSOUT
C180
4.7uF/25V
C179
1uF
R153
10K
U22
VI
VO
NC
CE
GND
LDO3V3/NC
R156
10K/NC
DGND
GPS_VBAT
RTCVDD
PMU LDO1 RTC 1.3V 20mA
R154
0R/NC
VDD_GPS_33V
R155
0R
C137
100pF
C181
4.7uF/25V
C182
100nF
IPSOUT
C183
4.7uF/25V
C184
1uF
U24
GPS_PWREN
R159
10K
LDO3V3
VDD_GPS_33V
VCC-3V3
R158
0R/NC
C142
100pF
C185
4.7uF/25V
C186
100nF
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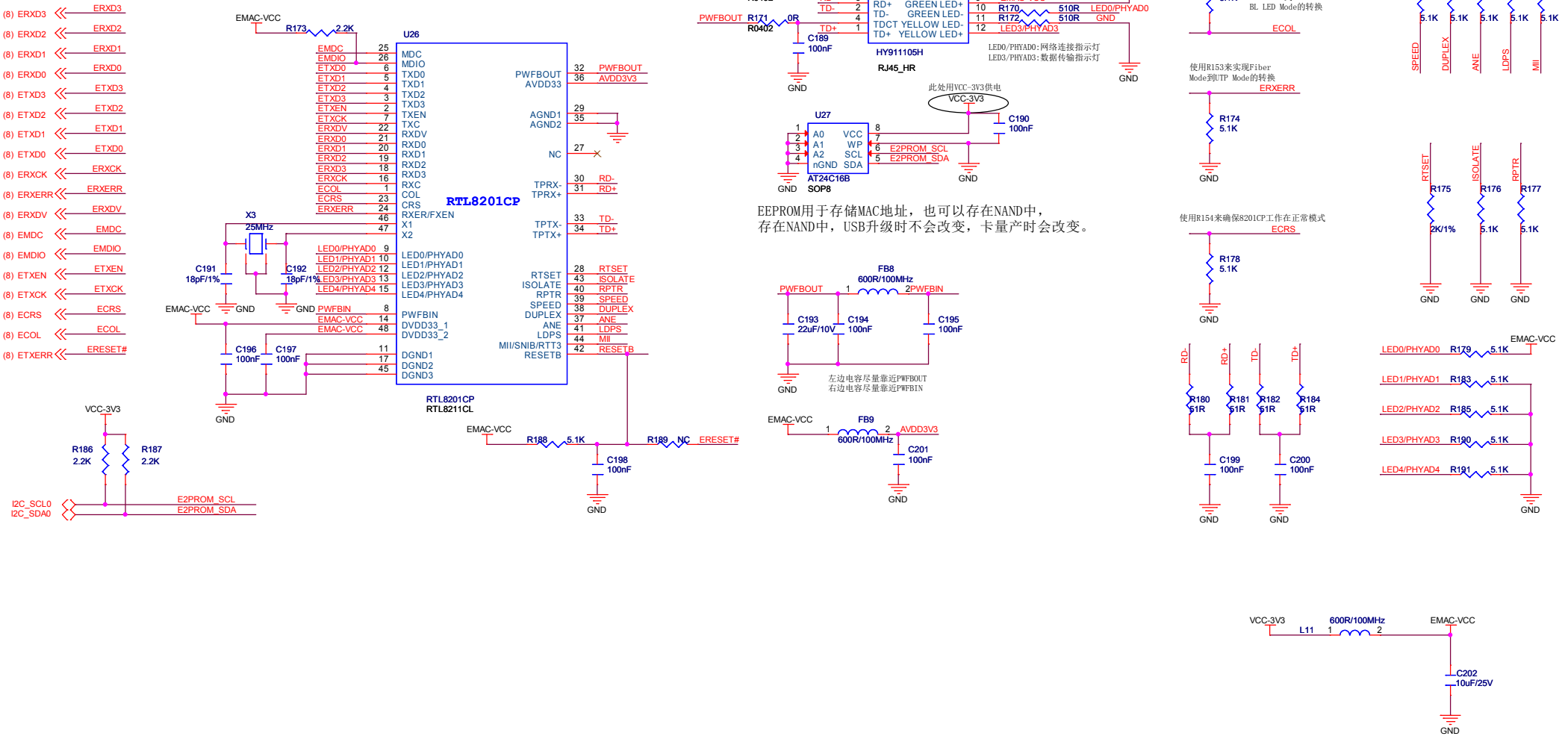
EMAC

Ethernet phy.功耗
work :115mA
standby:11.5mA



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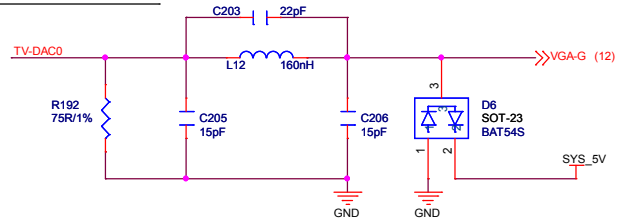
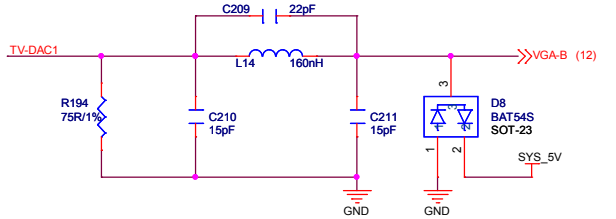
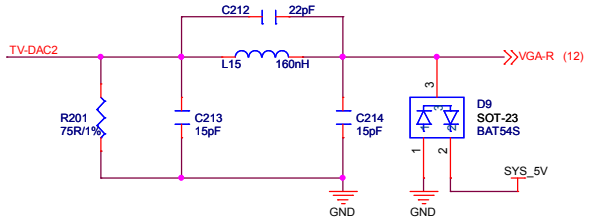
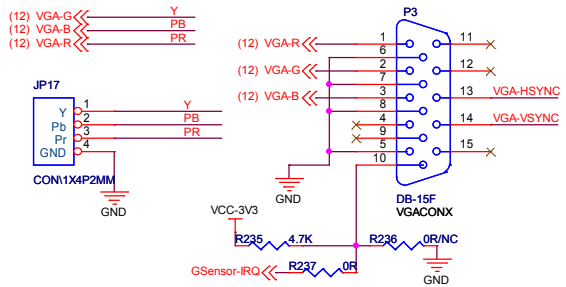
TVOUT



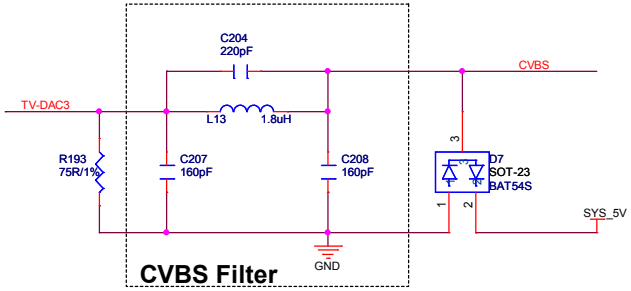


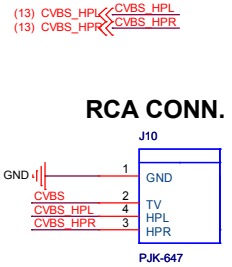


VGA CONN.

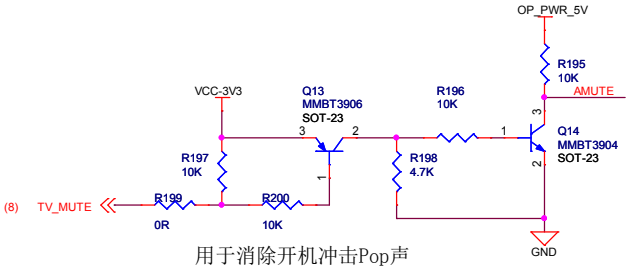


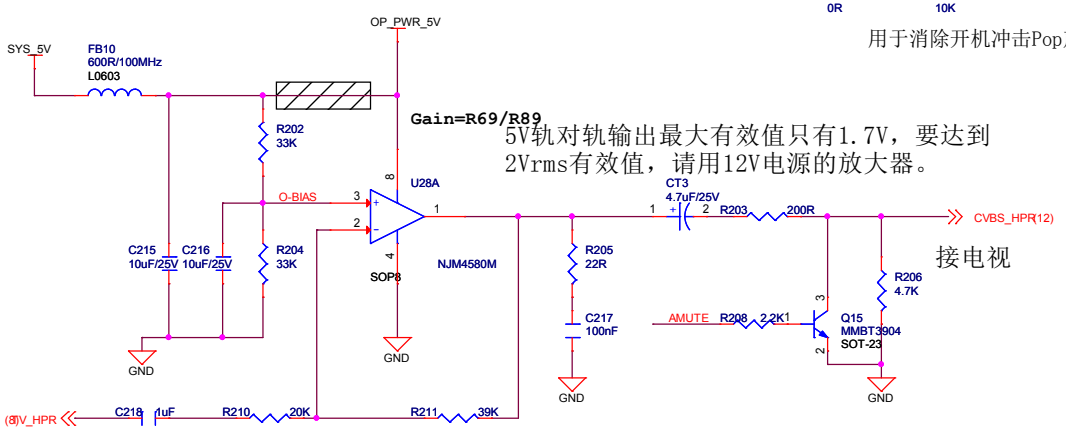
CVBS

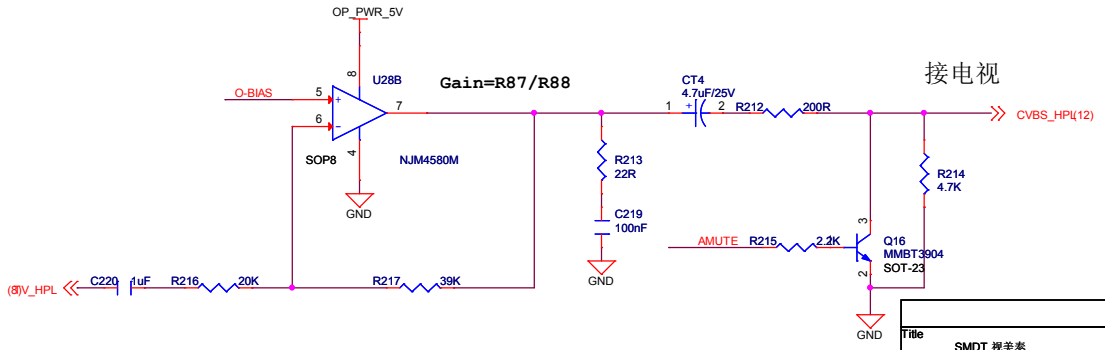




Analog Output







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